



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,937	07/18/2003	Karl Schrodinger	M&N-IT-462	3471
24131	7590	07/29/2004	EXAMINER	
LERNER AND GREENBERG, PA			NGUYEN, HAI L	
P O BOX 2480			ART UNIT	
HOLLYWOOD, FL 33022-2480			PAPER NUMBER	
			2816	
DATE MAILED: 07/29/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/622,937

**Applicant(s)**

SCHRODINGER, KARL

**Examiner**

Hai L. Nguyen

**Art Unit**

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/18/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 and 11-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because the limitation “an offset compensation circuit connected to the first and the second inverters and adjusting a difference between the two output clock signals to a constant value”, in the last 3 lines, is misdescriptive. The specification (page 19, line 11 through page 20, line 3) clearly discloses that the offset compensation circuit (8 in instant Fig.2) is connected to the differential amplifier (3 in instant Fig.2) for providing a control voltage (Vcmc in instant Fig.5) to the differential amplifier, which will then output the voltage signals (Dp, Dn) being superposed by an offset voltage. As a result, the voltage signals (Dp, Dn) is adjusted to the optimum switching point of the respective inverters so an optimum output pulse shape of the output clock signal can be achieved such as “a difference between the two output clock signals to a constant value”. Therefore, the offset compensation circuit connected to the differential amplifier for adjusting the output voltage signals of the differential amplifier in order to achieve the result as “a difference between the two output clock signals to a constant value” rather than connected to the first and the second inverters and adjusting a difference between the two output clock signals to a constant value.

Claim 4 is indefinite because of the limitation “a further differential amplifier generating first and second amplified”, in lines 6-7, is unclear. Insofar as understood, the recited limitation “an input differential amplifier generating first and second amplified signals in response to first and second differential input clock signals; first and second inverters connected to the input differential amplifier and generating respective first and second differential output clock signals”, as recited in base claim 1, refers to (the amplifier 3, inverters In1 & In2 in instant Fig. 2). Therefore, it is not clear how the above limitation reads on the preferred embodiment.

Claims 2, 3, 5-9, and 12-21 are rejected due to their dependencies on the base claims 1 and 4.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: a differential amplifier (2 in instant Fig. 2) and an integrator (7). In order for the control circuit (2, 3, 4, 5, 7, 8 in instant Fig. 2) for driving the inverters (In1, In2) and shifting the input pulses of the inverters to the optimum switching point of the inverters, those omitted elements need to be included in the claim (see the specification; page 5, line 18 through page 6, line 24).

---

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2816

4. Claims 1-3 and 21, to the extent understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (US 6,081,162).

With regard to claim 1, Johnson discloses in Figs. 1-3 a circuit configuration for regenerating clock signals (115A, 115B), comprising: an input differential amplifier (108) generating first and second amplified signals in response to first and second differential input clock signals (103A, 103B); first and second inverters (112A, 112B) connected to the input differential amplifier and generating respective first and second differential output clock signals (115A, 115B); and an offset compensation circuit (116).

With regard to claims 2-3 and 21, the references also meet the recited limitations in these claims.

5. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Johnson.

With regard to claim 10, Johnson discloses in Figs. 1-3 a circuit configuration for regenerating clock signals (115A, 115B), comprising: an input differential amplifier (108) generating first and second amplified signals in response to first and second differential input clock signals (103A, 103B); first and second inverters (112A, 112B) connected to the input differential amplifier and generating respective first and second differential output clock signals (115A, 115B) from the first and second amplified signals, the inverters having respective input pulse shapes and an optimum switching point (see column 2, line 26 through column 4, line 16); and a control circuit (116) for driving the inverters and shifting the input pulses of the inverters to the optimum switching point of the inverters.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Rodgers et al. (US 6,362,737).

The above-discussed circuit of Johnson meets all of the claimed limitations except for the limitation that the differential output clock signals are fed to a differential line driver.

Rodgers et al. teaches in Figs. 24-29 a circuit having antenna bus 132 that uses differential line drivers for all differential signals as recited in the claim. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to utilize differential line drivers taught by Rodgers et al. in Figs. 1-3 of Johnson for the advantage of distributing over a long-distance wire communication with an improved noise immunity characteristic.

---

***Conclusion***

8. Regarding claim 11, the patentability thereof cannot be determined because of the claim as being incomplete for omitting essential elements.


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For example, Hu (US 6,633,191) is cited as of interest because it discloses a clock buffer with DC offset suppression circuit.

Art Unit: 2816

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747 and Right Fax number is 571-273-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The official fax phone number for the organization where this application or proceeding is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

HLN   
July 16, 2004

  
TIMOTHY P. CALLAHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800